HU-25C Guardian 09/24/15

Aircraft:
HU-25A Guardian #525 (See full schedule)
Flight Number:
OIB2015 Arctic Northwest Coastal A
Payload Configuration:
ATM & DMS
Nav Data Collected:
No
Total Flight Time:
3.7 hours
Submitted by:
Luci Crittenden on 09/24/15
Flight Segments:

From:	BGTL	**To:**	BGTL
Start:	09/24/15 13:03 Z	**Finish:**	09/24/15 16:48 Z
Flight Time:	3.7 hours		
Log Number:	15F005	**PI:**	John Woods
Funding Source:	Thomas Wagner - NASA - SMD - ESD Cryosphere & International Polar Year		
Purpose of Flight:	Science		
Comments:	The HU-25 Falcon completed its second data flight for OIB Arctic out of Thule today. Next flight is scheduled for Friday, September 25.		

Flight Hour Summary:

	15F005	16F002
Flight Hours Approved in SOFRS	100	
Flight Hours Previously Approved		67.4
Total Used	32.6	65.3
Total Remaining		2.1

16F002 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
10/05/15	OIB2015 Arctic Sea Ice Central	Science	3.6	3.6	63.8
10/05/15	OIB2015 Arctic Sea Ice East	Science	3.8	7.4	60
10/06/15	OIB2015 Arctic Ice-Sat2 North	Science	4	11.4	56
10/07/15	OIB2015 Arctic Transit Thule to Kangerlussuaq	Transit	2	13.4	54
10/08/15	OIB2015 Arctic Southwest Coastal A	Science	3.8	17.2	50.2
10/08/15	OIB2015 Arctic Thomas-Jakobshavn 01	Science	3.7	20.9	46.5
10/09/15	OIB2015 Arctic Umanaq B	Science	3.9	24.8	42.6
10/13/15	OIB2015 Arctic Jakobshavn Eqip Store	Science	2.9	27.7	39.7
10/13/15	OIB2015 Arctic Southeast Coastal A	Science	3.6	31.3	36.1
10/18/15	OIB2015 Arctic Southeast Coastal B	Science	4.1	35.4	32
10/19/15	OIB2015 Arctic Helheim-Kangerdlugussuaq	Science	3.7	39.1	28.3
10/19/15	OIB2015 Arctic Helheim-Kangerdlugussuaq Gap B	Science	3.9	43	24.4
10/20/15	OIB2015 Arctic Jakobshavn Mop-Up	Science	3.7	46.7	20.7
10/20/15	OIB2015 Arctic Southwest Coastal B	Science	3.7	50.4	17

10/21/15	OIB2015 Arctic Southwest Coastal C	Science	3.4	53.8	13.6
10/21/15	OIB2015 Arctic K-EGIG-Summit	Science	3.7	57.5	9.9
10/22/15	OIB2015 Arctic Mopup South	Science	2	59.5	7.9
10/22/15	OIB2015 Arctic Ferry BGSF-CYYR	Ferry	2.2	61.7	5.7
10/23/15	OIB2015 Arctic Ferry CYYR-KRIC	Ferry	3.3	65	2.4
10/23/15	OIB2015 Arctic Ferry CYYR-KRIC	Ferry	0.3	65.3	2.1

Source URL: https://airbornescience.nasa.gov/flight_reports/HU-25C_Guardian_09_24_15

Related Science Report:

OIB - HU-25C Guardian 09/24/15 Science Report

Mission:
OIB
Mission Summary:

Mission: Northwest Coastal A (priority: high)

This mission is similar to the Northwest Coastal A mission flown in Spring 2015, but with the uppermost lines shortened to accommodate the shorter range of the Falcon aircraft. These shortened lines are completed by the companion ?Falcon Northwest Coastal B? mission.

Weather today was ideal for this mission, with easterly (and thus downsloping and hence drying) flow at Thule and along the upper Baffin Bay coast for several hundred miles to the south. Skies were almost perfectly clear for the entire flight. The Lincoln Sea and the entire northern coastal area of Greenland were covered in cloud and fog, and northeastern Greenland was influenced by an offshore low pressure system which covered our science targets in that area with high-level cirrus clouds.

We encountered several problems with the ATM instrument system this morning, including related hardware issues with the precise navigation system and an intermittent power issue with the ATM laser controller. We were able to resolve all of these issues, but this caused a two-hour delay in our takeoff. After takeoff we

encountered an entirely separate issue, namely a "dirty" start pulse for the ATM laser. This issue was resolved within 40 minutes of takeoff, altough we are not certain whether we resolved it with electronic adjustments, or whether it resolved itself. Our theories to explain the issue include a partially fouled nadir window, a very thin cirrus cloud layer just below the aircraft, or perhaps haze, any of which could explain the dirty start pulse under certain conditions. Our internal discussions will continue. A dirty start pulse can adversely affect the accuracy of ATM range measurements and hence topographic measurements, but as of this writing we do not know to what degree the early-mission data may be affected. Data collected after the first 40 minutes was clean.

Despite this early-mission problem, we are developing increasing confidence in higher altitude operations for ATM. We began the flight at 25,000' MSL, climbing to 30,000' and then 35,000' later in the flight.

DMS and the FLIR camera performed well all day.

We conducted a ramp pass at 15,000' AGL.

Data volumes:
DMS: 23.3 Gb
Narrow Swath ATM: 18 Gb
FLIR: 1.8 Gb

total data collection time: 3.5 hrs

Images:

Map of Falcon - Northwest Coastal A

Read more

Falcon on the ramp

Read more

Around Thule

Read more

Inglefield Fjord

Read more

Submitted by:
John Sonntag on 09/24/15

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

15F005 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
09/15/15	OIB #1	Check	2.7	2.7	97.3
09/20/15	OIB #2, 3, 4	Ferry	2.7	5.4	94.6
09/21/15	OIB #2, 3, 4	Ferry	2.3	7.7	92.3
09/21/15	OIB #2, 3, 4	Ferry	2	9.7	90.3
09/23/15	OIB2015 Arctic North Central Gap 02	Science	3.9	13.6	86.4
09/24/15	OIB2015 Arctic Northwest Coastal A	Science	3.7	17.3	82.7
09/25/15	OIB2015 Arctic Northwest Coastal B	Science	3.8	21.1	78.9
09/28/15	OIB2015 Arctic Sea Ice West	Science	3.7	24.8	75.2
09/30/15	OIB2015 Arctic North Central Gap 01	Science	3.9	28.7	71.3
09/30/15	OIB2015 Arctic Zachariae-79N	Science	3.9	32.6	67.4